

# **IMPLEMENTATION OF MIN-MAX STOCK METHOD FOR OPTIMIZATION OF STOCK CONTROL IN PRODUCT INVENTORY INFORMATION SYSTEM**

*(Case Study: Jogjakustik15 Sleman)*

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## **ABSTRACT**

*Jogjakustik15 is a musical instrument store in Sleman that sells guitars, cajons, amplifiers, and various other musical accessories. Jogjakustik15 faces challenges in managing its product inventory, specifically difficulties in determining appropriate restock timing and restock quantities for products. The main problems that occur are stock shortages on products with high demand and excess stock on products with low demand due to restock decision-making that is still performed conventionally without systematic calculations. Given these problems, the proposed solution is developing a product inventory information system (SIPPERPRO) by implementing the Min-Max Stock method to optimize product stock management. The methods used in data collection include observation, interviews, literature study, and software development using the Waterfall model. Test results show the system achieved 95% success rate from 60 black box testing scenarios, with the Min-Max Stock method achieving 100% accuracy based on testing 28 parameters from 7 different products. The system successfully generates safety stock, minimum stock, maximum stock, and restock quantity recommendations based on historical data of product outbound transactions and supplier lead time, capable of determining appropriate product restock quantity recommendations, and provides automatic restock notifications when stock reaches minimum thresholds, enabling Jogjakustik15 to manage inventory more optimally and efficiently.*

**Keywords:** *Jogjakustik15, Inventory Control System, Min-Max Stock*